

SEQUENCE LISTING

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Bihain, Bernard

<120> Methods Of Screening For Compounds That Modulate the  
LSR-Leptin Interaction and Their Use in the Prevention  
and Treatment of Obesity-Related Diseases

<130> 70.US2.REG

<150> 60/155,506

<151> 1999-09-22

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1. The first step is to identify the key components of the system. This involves understanding the hardware, software, and data involved.

<221> allele

<223> 9-9-246 : polymorphic base G or C

<221> allele

<223> LSRX9f13-BM : polymorphic base deletion of AGG

<221> allele

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<223> LSRX9f14-BM : polymorphic base T or G
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 His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu Arg Tyr Phe Gly  
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Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro Ala Ala Ala Gly

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Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn Pro Tyr His Val  
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										105				110				115				
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Ser	Thr	Pro	Thr	Gln	Pro	Ile	Val	Ile	Trp	Lys	Tyr	Lys	Ser	Phe	Cys							
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120 125 130  
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Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln

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[illegible]

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<212> DNA
<213> Homo sapiens
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Gly Pro Leu Glu Asp Trp Leu Phe Val Val Val Val Cys Leu Ala Ser																









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Tyr	Tyr	Asp	Asp	Leu	Arg	Ser	Arg	Asp	Pro	Arg	Ala	Asp	Pro	Arg	Ser	
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Pro	Gln	Tyr	Asp	Gly	Arg	Leu	Leu	Glu	Glu	Ala	Leu	Lys	Lys	Lys	Gly	
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385					390					395					400
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Ala	Met	Ser	Glu	Val	Thr	Ser	Leu	His	Glu	Asp	Asp	Trp	Arg	Ser	Arg	
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Pro	Ser	Arg	Ala	Pro	Ala	Leu	Thr	Pro	Ile	Arg	Asp	Glu	Glu	Trp	Asn	
			325						330					335		
Arg	His	Ser	Pro	Arg	Ser	Pro	Arg	Thr	Trp	Glu	Gln	Glu	Pro	Leu	Gln	
			340					345					350			
Glu	Gln	Pro	Arg	Gly	Gly	Trp	Gly	Ser	Gly	Arg	Pro	Arg	Ala	Arg	Ser	
		355					360					365				
Val	Asp	Ala	Leu	Asp	Asp	Ile	Asn	Arg	Pro	Gly	Ser	Thr	Glu	Ser	Gly	
	370					375					380					
Arg	Ser	Ser	Pro	Pro	Ser	Ser	Gly	Arg	Arg	Gly	Arg	Ala	Tyr	Ala	Pro	
385					390					395					400	
Pro	Arg	Ser	Arg	Ser	Arg	Asp	Asp	Leu	Tyr	Asp	Pro	Asp	Asp	Pro	Arg	
			405						410					415		
Asp	Leu	Pro	His	Ser	Arg	Asp	Pro	His	Tyr	Tyr	Asp	Asp	Leu	Arg	Ser	
			420					425					430			
Arg	Asp	Pro	Arg	Ala	Asp	Pro	Arg	Ser	Arg	Gln	Arg	Ser	His	Asp	Pro	
		435					440					445				
Arg	Asp	Ala	Gly	Phe	Arg	Ser	Arg	Asp	Pro	Gln	Tyr	Asp	Gly	Arg	Leu	
	450					455				460						
Leu	Glu	Glu	Ala	Leu	Lys	Lys	Lys	Gly	Ala	Gly	Glu	Arg	Arg	Arg	Val	
465					470					475					480	
Tyr	Arg	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Gly	His	Tyr	Pro	Pro	Ala	
			485						490					495		
Pro	Pro	Pro	Tyr	Ser	Glu	Thr	Asp	Ser	Gln	Ala	Ser	Arg	Glu	Arg	Arg	
			500					505						510		
Met	Lys	Lys	Asn	Leu	Ala	Leu	Ser	Arg	Glu	Ser	Leu	Val	Val			
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18

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<220>  
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 <223> sequencing oligonucleotide PrimerRP

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<213> Artificial Sequence

<220>

<223> oligonucleotide sense primer

<400> 22

ctacaacccc tacgtcgagt

20

<210> 23

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide anti sense primer

<400> 23

aggcggagat cgccagtcgt

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<210> 24

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<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide sense primer

<400> 24

cctttgtcca cgtcgtttac gctc

24

<210> 25

<211> 20

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<213> Artificial Sequence

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<223> oligonucleotide anti sense primer

<400> 25

tcacagcgtt gccctgcttg

20

<210> 26

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide sense primer

<400> 26

ttactgctcc gtgggtctcag c

21

<210> 27

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> oligonucleotide anti sense primer

<400> 27

agctactcct gtcaacgtct cc

22



<210> 28  
 <211> 167  
 <212> PRT  
 <213> Bos taurus

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 Met Arg Cys Gly Pro Leu Tyr Arg Phe Leu Trp Leu Trp Pro Tyr Leu  
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 Ser Tyr Val Glu Ala Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys  
 20 25 30  
 Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
 35 40 45  
 Gln Ser Val Ser Ser Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
 50 55 60  
 Gly Leu His Pro Leu Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
 65 70 75 80  
 Ile Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Arg Asn Val Val Gln  
 85 90 95  
 Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
 100 105 110  
 Ala Ser Lys Ser Cys Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu  
 115 120 125  
 Glu Ser Leu Gly Val Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
 130 135 140  
 Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln  
 145 150 155 160  
 Leu Asp Leu Ser Pro Gly Cys  
 165

<210> 29  
 <211> 146  
 <212> PRT  
 <213> Canis familiaris

<400> 29  
 Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
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 Lys Gln Arg Val Ala Gly Leu Asp Phe Ile Pro Gly Leu Gln Pro Val  
 35 40 45  
 Leu Ser Leu Ser Arg Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
 50 55 60  
 Leu Asn Ser Leu His Ser Arg Asn Val Val Gln Ile Ser Asn Asp Leu  
 65 70 75 80  
 Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Ser Ser Lys Ser Cys  
 85 90 95  
 Pro Leu Pro Arg Ala Arg Gly Leu Glu Thr Phe Glu Ser Leu Gly Gly  
 100 105 110  
 Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
 115 120 125  
 Leu Gln Ala Ala Leu Gln Asp Met Leu Arg Arg Leu Asp Leu Ser Pro  
 130 135 140  
 Gly Cys  
 145

<210> 30  
 <211> 163  
 <212> PRT  
 <213> Gallus gallus

<400> 30  
 Met Cys Trp Arg Pro Leu Cys Arg Leu Trp Ser Tyr Leu Val Tyr Val

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		20						25					30		
Lys	Thr	Ile	Val	Thr	Arg	Ile	Asn	Asp	Ile	Ser	His	Thr	Ser	Val	Ser
		35					40					45			
Ala	Lys	Gln	Arg	Val	Thr	Gly	Leu	Asp	Phe	Ile	Pro	Gly	Leu	His	Pro
	50					55					60				
Ile	Leu	Ser	Leu	Ser	Lys	Met	Asp	Gln	Thr	Leu	Ala	Val	Tyr	Gln	Gln
65					70					75				80	
Val	Leu	Thr	Ser	Leu	Pro	Ser	Gln	Asn	Val	Leu	Gln	Ile	Ala	Asn	Asp
			85					90						95	
Leu	Glu	Asn	Leu	Arg	Asp	Leu	Leu	His	Leu	Leu	Ala	Phe	Ser	Lys	Ser
		100						105					110		
Cys	Ser	Leu	Pro	Gln	Thr	Ser	Gly	Leu	Gln	Lys	Pro	Glu	Ser	Leu	Asp
		115					120					125			
Gly	Val	Leu	Glu	Ala	Ser	Leu	Tyr	Ser	Thr	Glu	Val	Val	Ala	Leu	Ser
	130					135					140				
Arg	Leu	Gln	Gly	Ser	Leu	Gln	Asp	Ile	Leu	Gln	Gln	Leu	Asp	Ile	Ser
145					150					155					160
Pro	Glu	Cys													

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 <212> PRT  
 <213> Gorilla gorilla

<400> 31															
Val	Pro	Ile	Gln	Lys	Val	Gln	Asp	Asp	Thr	Lys	Thr	Leu	Ile	Lys	Thr
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Ile	Val	Thr	Arg	Ile	Ser	Asp	Ile	Ser	His	Thr	Gln	Ser	Val	Ser	Ser
		20						25				30			
Lys	Gln	Lys	Val	Thr	Gly	Leu	Asp	Phe	Ile	Pro	Gly	Leu	His	Pro	Ile
	35						40				45				
Leu	Thr	Leu	Ser	Lys	Met	Asp	Gln	Thr	Leu	Ala	Val	Tyr	Gln	Gln	Ile
	50					55					60				
Leu	Thr	Ser	Met	Pro	Ser	Arg	Asn	Met	Ile	Gln	Ile	Ser	Asn	Asp	Leu
65				70					75					80	
Glu	Asn	Leu	Arg	Asp	Leu	Leu	His	Val	Leu	Ala	Phe	Ser	Lys	Ser	Cys
			85					90					95		
His	Leu	Pro	Trp	Ala	Ser	Gly	Leu	Glu	Thr	Leu	Asp	Ser	Leu	Gly	Gly
		100						105					110		
Val	Leu	Glu	Ala	Ser	Gly	Tyr	Ser	Thr	Glu	Val	Val	Ala	Leu	Ser	Arg
		115					120					125			
Leu	Gln	Gly	Ser	Leu	Gln	Asp	Met	Leu	Trp	Gln	Leu	Asp	Leu	Ser	Pro
	130					135					140				
Gly	Cys														
145															

<210> 32  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 32															
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Phe	Tyr	Val	Gln	Ala	Val	Pro	Ile	Gln	Lys	Val	Gln	Asp	Asp	Thr	Lys
		20						25				30			
Thr	Leu	Ile	Lys	Thr	Ile	Val	Thr	Arg	Ile	Asn	Asp	Ile	Ser	His	Thr
	35						40					45			
Gln	Ser	Val	Ser	Ser	Lys	Gln	Lys	Val	Thr	Gly	Leu	Asp	Phe	Ile	Pro
	50					55					60				
Gly	Leu	His	Pro	Ile	Leu	Thr	Leu	Ser	Lys	Met	Asp	Gln	Thr	Leu	Ala



Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro  
115 120 125  
Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
130 135 140  
Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
145 150 155 160  
Leu Asp Val Ser Pro Glu Cys  
165

<210> 35

<211> 146

<212> PRT

<213> Ovus aries

<400> 35

Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
1 5 10 15  
Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
20 25 30  
Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Leu  
35 40 45  
Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
50 55 60  
Leu Ala Ser Leu Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
65 70 75 80  
Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Ala Ser Lys Ser Cys  
85 90 95  
Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu Glu Ser Leu Gly Val  
100 105 110  
Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
115 120 125  
Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln Leu Asp Leu Ser Pro  
130 135 140  
Gly Cys  
145

<210> 36

<211> 146

<212> PRT

<213> Pan troglodytes

<400> 36

Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
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20 25 30  
Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
35 40 45  
Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
50 55 60  
Leu Thr Ser Met Pro Ser Arg Asn Met Ile Gln Ile Ser Asn Asp Leu  
65 70 75 80  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
85 90 95  
His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly  
100 105 110  
Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
115 120 125  
Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
130 135 140  
Gly Cys  
145

<210> 37  
 <211> 146  
 <212> PRT  
 <213> Pongo pygmaeus

<400> 37  
 Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
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 Val Ile Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
 20 25 30  
 Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
 35 40 45  
 Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
 50 55 60  
 Leu Thr Ser Met Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
 65 70 75 80  
 Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
 85 90 95  
 His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Arg Leu Gly Gly  
 100 105 110  
 Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
 115 120 125  
 Leu Gln Arg Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
 130 135 140  
 Gly Cys  
 145

<210> 38  
 <211> 167  
 <212> PRT  
 <213> Rattus norvegicus

<400> 38  
 Met Cys Trp Arg Pro Leu Cys Arg Phe Leu Trp Leu Trp Ser Tyr Leu  
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 Ser Tyr Val Gln Ala Val Pro Ile His Lys Val Gln Asp Asp Thr Lys  
 20 25 30  
 Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
 35 40 45  
 Gln Ser Val Ser Ala Arg Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
 50 55 60  
 Gly Leu His Pro Ile Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
 65 70 75 80  
 Val Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Gln Asn Val Leu Gln  
 85 90 95  
 Ile Ala His Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
 100 105 110  
 Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Arg Gly Leu Gln Lys Pro  
 115 120 125  
 Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
 130 135 140  
 Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
 145 150 155 160  
 Leu Asp Leu Ser Pro Glu Cys  
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<210> 39  
 <211> 167  
 <212> PRT  
 <213> Sus scrofa

<400> 39  
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		20						25					30		
Thr	Leu	Ile	Lys	Thr	Ile	Val	Thr	Arg	Ile	Ser	Asp	Ile	Ser	His	Met
		35					40					45			
Gln	Ser	Val	Ser	Ser	Lys	Gln	Arg	Val	Thr	Gly	Leu	Asp	Phe	Ile	Pro
		50				55					60				
Gly	Leu	His	Pro	Val	Leu	Ser	Leu	Ser	Lys	Met	Asp	Gln	Thr	Leu	Ala
65					70				75						80
Ile	Tyr	Gln	Gln	Ile	Leu	Thr	Ser	Leu	Pro	Ser	Arg	Asn	Val	Ile	Gln
			85						90					95	
Ile	Ser	Asn	Asp	Leu	Glu	Asn	Leu	Arg	Asp	Leu	Leu	His	Leu	Leu	Ala
		100						105					110		
Ser	Ser	Lys	Ser	Cys	Pro	Leu	Pro	Gln	Ala	Arg	Ala	Leu	Glu	Thr	Leu
		115					120					125			
Glu	Ser	Leu	Gly	Gly	Val	Leu	Glu	Ala	Ser	Leu	Tyr	Ser	Thr	Glu	Val
		130				135					140				
Val	Ala	Leu	Ser	Arg	Leu	Gln	Gly	Ala	Leu	Gln	Asp	Met	Leu	Arg	Gln
145					150					155					160
Leu	Asp	Leu	Ser	Pro	Gly	Cys									
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<400> 40  
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<400> 41  
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<210> 42  
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 <212> PRT  
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<400> 42  
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<210> 43  
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<400> 43  
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<210> 44  
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<400> 44  
Glu Lys Pro Glu  
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<400> 45  
Glu Lys Pro Asp  
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<400> 46  
Thr Pro Asp Ser Leu  
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<210> 47  
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<400> 47  
Gly Leu Gln Thr Leu Asp Ser Leu Gly  
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Gly Gly Val Leu Glu  
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1 5

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<400> 53  
Leu Gly Gly Val Leu Glu Ala  
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<211> 22  
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<400> 54  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
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His Leu Pro Trp Ala Ser  
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<212> PRT  
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<400> 55  
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1 5 10 15  
Ser Gly Leu Glu Thr Leu  
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<210> 56  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 56  
Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr  
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Leu Asp Ser Leu Gly Gly  
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<210> 57  
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<212> PRT  
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<400> 57  
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Gly Val Leu Glu Ala Ser  
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<211> 18  
<212> PRT  
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<400> 58  
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1 5 10 15  
Leu Glu

<210> 59  
<211> 14  
<212> PRT  
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<210> 60  
<211> 21  
<212> PRT  
<213> Homo sapiens

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Gly Tyr Ser Thr Glu  
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<210> 61  
<211> 10  
<212> PRT  
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<400> 61  
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1 5 10

<210> 62  
<211> 22  
<212> PRT  
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Glu Val Val Ala Leu Ser  
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<210> 63  
<211> 22  
<212> PRT  
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<400> 63  
Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu  
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<210> 64  
 <211> 22  
 <212> PRT  
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 Ser Leu Pro Gln Thr Ser  
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<210> 65  
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 Ser Gly Leu Gln Lys Pro  
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<210> 66  
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<400> 66  
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 Pro Glu Ser Leu Asp Gly  
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<210> 67  
 <211> 22  
 <212> PRT  
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<400> 67  
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 Gly Val Leu Glu Ala Ser  
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<210> 68  
 <211> 18  
 <212> PRT  
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<400> 68  
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<210> 69  
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<400> 69  
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 Ser Leu Tyr Ser Thr Glu  
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 <212> PRT  
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 <213> Mus musculus

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 Lys Pro Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr  
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 Glu Val Val Ala Leu Ser  
                   20

<210> 73  
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 <212> PRT  
 <213> Mus musculus

<400> 73  
 Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu  
 1                   5                   10                   15  
 Ser Arg Leu Gln Gly Ser  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
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 ttcgcgc 67

<210> 75  
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<220>  
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<220>
<223> oligonucleotide Probes endogenous/mutant
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27

<220>  
<223> oligonucleotide Chimeric oligonucleotides

60  
67

<220>  
<223> oligonucleotide Forward Primer

21

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19

68

<220>  
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 gagctcatcg tccttgggag 20  
  
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